AMENDMENT AND PRESENTATION OF CLAIMS

Please replace all prior claims in the present application with the following claims, in which claims 1, 3-6, 9, 10, and 19 are currently amended, and claims 24-27 are newly presented.

1. (Currently Amended) A method for providing multi-user access to a packet switched network, the method comprising:

executing a communication software on a plurality of end user stations that communicate over a local area network (LAN) supporting an Ethernet-based LAN protocol, the communication software being based upon a communication protocol that establishes a point-to-point communication session;

generating packets by the plurality of end user stations based upon the communication protocol;

selectively encapsulating the communication protocol packets using the Ethernet-based LAN protocol;

~~transmitting~~ forwarding the encapsulated packets ~~by~~ to a customer premise equipment (CPE) that is coupled to the LAN~~;~~ ,

~~simultaneously carrying~~ wherein the point-to-point communication sessions are simultaneously carried over a communication channel and terminated~~;~~ ~~terminating the point-to-point communication sessions~~ at a remote access server~~; and recovering~~, the packets ~~and forwarding the packets~~ being recovered and forwarded to the packet switched network.

2. (Original) The method according to claim 1, wherein the communication protocol in the executing step is Point-to-Point Protocol (PPP).

3. (Currently Amended) The method according to claim 1, wherein the CPE in the step of ~~transmitting~~ <u>forwarding</u> is a digital subscriber line (DSL) modem.

4. (Currently Amended) The method according to claim 1, wherein the communication channel ~~in the step of simultaneously carrying exists~~ <u>is established</u> over an <u>Asynchronous Transfer Mode (ATM)</u> network.

5. (Currently Amended) The method according to claim 4, ~~further comprising assigning~~ <u>wherein</u> a Permanent Virtual Circuit (PVC) associated with the ATM network <u>is assigned</u> to the CPE.

6. (Currently Amended) The method according to claim 5, ~~further comprising mapping~~ <u>wherein</u> the point-to-point communication sessions <u>are mapped</u> to distinct VPI/VCIs (Virtual Path Identifier/Virtual Connection Identifier).

7. (Original) The method according to claim 1, further comprising dynamically selecting network services.

8. (Original) The method according to claim 1, wherein the packets conform with Ethernet V2 format.

9. (Currently Amended) The method according to claim 1, ~~further comprising processing~~ <u>wherein</u> individual accounting information <u>is processed</u> for each of the plurality of end user stations.

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10. (Currently Amended) A communication system for providing multi-user access to a packet switched network, the communication system comprising:

a local area network (LAN) supporting an Ethernet-based LAN protocol;

a plurality of end user stations connected to the LAN, each of the plurality of end user stations executing a communication software that is based upon a communication protocol that establishes a point-to-point communication session, the plurality of end user stations generating packets based upon the communication protocol, each of the plurality of end user stations selectively encapsulating the communication protocol packets using the Ethernet-based LAN protocol;

a customer premise equipment (CPE) coupled to the LAN and configured to transmit the encapsulated packets;

a line terminating equipment communicating with the CPE;

a multiplexer/demultiplexer coupled to the line terminating equipment and configured to receive the point-to-point communication sessions, the multiplexer/demultiplexer simultaneously carrying the point-to-point communication sessions over a communication channel; and

a remote access server communicating with the multiplexer/demultiplexer and configured to terminate the point-to-point communication sessions, the remote access server recovering the packets and forwarding the packets, and to the packet switched network.

a router coupled to the remote access server and configured to receive the packets, the router forwarding the packets to the packet switched network.

11. (Original) The system according to claim 10, wherein the communication protocol is Point-to-Point Protocol.

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12. (Original) The system according to claim 10, wherein the CPE is a digital subscriber line (DSL) modem and the line terminating equipment is a DSL access multiplexer (DSLAM).

13. (Currently Amended) The system according to claim 12, wherein the multiplexer/demultiplexer is an <u>Asynchronous Transfer Mode (ATM)</u> switch.

14. (Original) The system according to claim 13, wherein the communication channel is a Permanent Virtual Circuit (PVC), the PVC being associated with the CPE.

15. (Original) The system according to claim 14, wherein the point-to-point communication sessions are individually mapped to distinct VPI/VCIs (Virtual Path Identifier/Virtual Connection Identifier).

16. (Original) The system according to claim 10, wherein each of the plurality of end user stations dynamically selects network services.

17. (Original) The system according to claim 10, wherein the packets conform with Ethernet V2 format.

18. (Original) The system according to claim 10, wherein the remote access server processes individual accounting information for each of the plurality of end user stations.

19. (Currently Amended) A computer-readable medium carrying one or more sequences of one or more instructions for providing multi-user access to a packet switched network, the one or more sequences of one or more instructions including instructions which, when executed by one or more processors, cause the one or more processors to perform the steps of:

executing a communication software on a plurality of end user stations that communicate over a local area network (LAN) supporting an Ethernet-based LAN protocol, the communication software being based upon a communication protocol that establishes a point-to-point communication session;

generating packets by the plurality of end user stations based upon the communication protocol;

selectively encapsulating the communication protocol packets using the Ethernet-based LAN protocol; and

~~transmitting~~ forwarding the encapsulated packets ~~by~~ to a customer premise equipment (CPE) that is coupled to the LAN.

20. (Original) The computer-readable medium according to claim 19 wherein the communication protocol in the executing step is Point-to-Point Protocol (PPP).

21. (Original) The computer-readable medium according to claim 19, wherein the CPE in the step of transmitting is a digital subscriber line (DSL) modem.

22. (Original) The computer-readable medium according to claim 19, further comprising dynamically selecting network services.

23.   (Original)   The computer-readable medium according to claim 19, wherein the packets conform with Ethernet V2 format.

24.   (New) A method for supporting multi-user access to a data network, the method comprising:

receiving packets supporting a plurality of point-to-point communication sessions initiated respectively by a plurality of hosts, the packets being encapsulated by an Ethernet-type protocol; and

transmitting the encapsulated packets over a common communication channel to a line terminating device,

wherein the line terminating device resolves the plurality of point-to-point communication sessions according to the respective hosts for accessing the data network.

25.   (New) The method according to claim 24, wherein one of the point-to-point communication sessions corresponds to a first network service provider, and another one of the point-to-point communication sessions corresponds to a second network service provider.

26.   (New) A method for supporting multi-user access to network services, the method comprising:

receiving encapsulated packets from a single customer premise equipment that communicates with a plurality of hosts, each of the hosts being configured to establish point-to-point communication session for transport of the packets and to encapsulate the packets according to an Ethernet-type protocol; and